

# United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION N	О.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/909,229	-	07/19/2001	James Leo Czekaj	10541/421 V200-0758	9724
29074	7590	11/16/2005		EXAMINER	
VISTEO	N		PATHAK, SUDHANSHU C		
C/O BRIN	NKS HOFE	ER GILSON & LI	ONE		
PO BOX	10395		ART UNIT	PAPER NUMBER	
CHICAG	O, IL 60	610	2634		
				DATE MAIL ED: 11/16/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

	ί <b>ķ</b>							
	Application No.	Applicant(s)						
Office Action Comment	09/909,229	CZEKAJ ET AL.						
Office Action Summary	Examiner	Art Unit						
TI MANUALO DATE CHI	Sudhanshu C. Pathak	2634						
The MAILING DATE of this communication app Period for Reply	lears on the cover sheet with the c	orrespondence address						
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA  - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period w  - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be timustilly apply and will expire SIX (6) MONTHS from a cause the application to become ABANDONE	N.  lety filed  the mailing date of this communication.  O (35 U.S.C. § 133).						
Status								
1) Responsive to communication(s) filed on Septe	Responsive to communication(s) filed on <u>September 1<sup>st</sup>, 2005</u> .							
2a)⊠ This action is FINAL. 2b)☐ This	This action is FINAL. 2b) This action is non-final.							
	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is							
closed in accordance with the practice under E	closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.							
Disposition of Claims								
<ul> <li>4)  Claim(s) 35 is/are pending in the application.</li> <li>4a) Of the above claim(s) is/are withdraw</li> <li>5)  Claim(s) is/are allowed.</li> <li>6)  Claim(s) 1-16 and 19-35 is/are rejected.</li> <li>7)  Claim(s) 17 and 18 is/are objected to.</li> <li>8)  Claim(s) are subject to restriction and/o</li> </ul>								
Application Papers								
9) ☐ The specification is objected to by the Examine 10) ☑ The drawing(s) filed on July 19 <sup>th</sup> , 2001 is/are: a Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct 11) ☐ The oath or declaration is objected to by the Ex	a)⊠ accepted or b)□ objected to drawing(s) be held in abeyance. See ion is required if the drawing(s) is ob	e 37 CFR 1.85(a). jected to. See 37 CFR 1.121(d).						
Priority under 35 U.S.C. § 119								
<ul> <li>12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).</li> <li>a) All b) Some * c) None of:</li> <li>1. Certified copies of the priority documents have been received.</li> <li>2. Certified copies of the priority documents have been received in Application No</li> <li>3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> <li>* See the attached detailed Office action for a list of the certified copies not received.</li> </ul>								
Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date	4) 🔀 Interview Summary Paper No(s)/Mail Da 5) 🔲 Notice of Informal P 6) 🔲 Other:	(PTO-413) ate atent Application (PTO-152)						

Art Unit: 2634

#### **DETAILED ACTION**

Page 2

1. Claims 1-to-35 are pending in the application.

## Response to Arguments

- Applicant's arguments with respect to claims 1-35 rejections have been considered but are most in view of the new ground(s) of rejection.
- 3. Applicant's arguments with respect to the claim 1 have been considered but they are not persuasive. In regards to the claim objection it is the digital information that is at a first rate which is clocked into the network at a second rate. On the receiving end the receiver receives the digital information, which is, then sample rate converted to generate the source information. Therefore, the claim objection has been maintained.

#### Claim Objections

4. Claim 1 are objected to because of the following informalities:

Regarding to Claim 1, the claim discloses ".....converting the source information as a function.....", this should actually be ".....converting the received digital information as a function.....".

## Claim Rejections - 35 USC § 103

- 5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Art Unit: 2634

6. Claims 1-2, 4-8, 9-10, 16, 22, 25-33 & 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art (AAPA) in view of Binder (6,009,109).

Regarding to Claims 1-2, 4-7, 9-10, 25-33 & 35, the Applicant Admitted Prior Art (AAPA) discloses a method of transmitting digital information over a synchronous network (Specification, Page 1, lines 9-20). The AAPA also discloses the communication between a source (input node where data is originated to be transmitted over the network) coupled to the network and a sink (output node where the transmitted data is received) which is also coupled to the network, furthermore the AAPA also discloses node in the network to be a source/sink depending on the flow of the data (Specification, Page 1, lines 9-14 & Specification, Page 2, lines 10-20 & Specification, Page 7, lines 10-24 & Specification, Page 8, lines 1-11). The AAPA also discloses in synchronous network comprising the sample rate of the digital information processed by the source/sink (first rate) is different from the network master clock rate (second rate) (Specification, Page 2, lines 10-14). The AAPA also discloses that in a synchronous network the data is transmitted in the form of network frames separated by equal time intervals wherein the time intervals and the network frames are fixed at the network master clock rate (Specification, Page 1, lines 15-20 & Specification, Page 2, lines 10-11). The AAPA also discloses implementing a sample rate converter for synchronizing the sink to the frequency of the network master clock with a sample rate different form the network master clock (Specification, Page 2, lines 14-17). The AAPA also discloses the sink portion of the Art Unit: 2634

node to comprise a buffer to store the network counter value (NCV) and the digital information supplied over the synchronous network (Specification, Page 18, lines 8-10). The AAPA also discloses the sample rate converter capable of extracting the digital information and the network counter value (Specification, Page 18, lines 15-18). The AAPA also discloses the synchronous data transfer standards for synchronous network include media oriented system transport (most) and domestic databus (D2B) wherein the source/sink nodes establish connection to the network using modems, ISDN connections, DSL connections etc. (Specification, Page 7, lines 14-24 & Specification, Page 8, lines 1-17). The AAPA also discloses the network comprising multiple sources and nodes operating at a rate different (higher and/or lower) than the network master clock rate (Specification, Page 2, lines 10-20). However, the AAPA does not disclose clocking the digital information without sample rate conversion of the digital information into the synchronous network at the second rate.

Binder discloses s synchronous network comprising a sink and a source (Fig. 's 1-2, 6 & Column 1, lines 5-20 & Column 3, lines 63-67). Binder also discloses the source data is sampled at application rate (T<sub>1</sub>) and is clocked into the network at a clock rate (T<sub>2</sub>) independent of the application rate without sample rate conversion at the source wherein the sample rate conversion is done at the sink (Fig.'s 1-2 & Abstract, lines 1-17 & Column 1, lines 25-38 & Column 2, lines 26-67 & Column 3, lines 1-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Binder teaches transmitting/receiving data over a

Art Unit: 2634

synchronous network wherein the data is clocked into the network without sample rate conversion and is further received and sample rate converted at the receiver and this can be implemented in the network as described in the AAPA so as simplify the system components of the network and provide the transmitted data without jitter.

Regarding to Claims 8, 16 & 22, the Applicant Admitted Prior Art (AAPA) in view of Binder discloses a method for communication in a synchronous network between a sink/source ports wherein the source sample rate is transported to the sink from the source so as to implement the sample rate converter at the sink as described above. Binder further discloses a process of transmission of digital data wherein the application data timing is independent of the network clock rate (Fig.'s 1-2 & Abstract, lines 11-17 & Column 1, lines 7-14, 40-64). Binder further discloses the network clock being greater than the data sample rate, thus oversampling the data signal for transmission (Abstract, lines 1-6 & Fig.'s 1-2 & Column 1, lines 25-35 & Column 2, lines 29-56). Binder further discloses ignoring the redundant (oversampled) digital data as a function of the first and second rate (Fig.'s 1-2, elements "...", "EXOR", "BF", "D-FF2" & Column 2, lines 65-67 & Column 3, lines 1-12). Therefore, it would have been obvious to one of ordinary skill in the at the time of the invention that Binder teaches oversampling the digital data in the transmitter and at the receiver ignoring the redundant data to regenerate the transmitted data, and this can be implemented in the network as described in the AAPA so as a data

Art Unit: 2634

rate converter when the network clock is greater than the source sample data to retrieve the transmitted data, thus satisfying the limitations of the claims.

7. Claims 3, 11-15, 19-21, 23-24 & 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art (AAPA) in view of Binder (6,009,109) in further view of Van der Putten et al. (6,327,273).

Regarding to Claims 3, 11-15, 19-21, 23-24 & 34, the Applicant Admitted Prior Art (AAPA) in view of Binder discloses a method for communication in a synchronous network between a sink/source ports wherein the source sample rate is transported to the sink from the source so as to implement the sample rate converter at the sink as described above. However, the AAPA in view of Binder does not disclose a counter to count the source sample rate and to generate a count value and transmitting the source counter value as part of the digital information.

Van der Putten discloses a method for to transparently transporting an incoming clock of a known frequency over a network (clock transport method) wherein the transmitter and receiver are synchronized (Abstract, lines 1-5 & Column 1, lines 13-26). Van der Putten also discloses transmitting the data and the information of the incoming clock (Fig. 1, elements "CLK2, CLK2") from the source to the sink in frames at a frequency of the transmit clock (Column 1, lines 30-35 & Column 2, lines 12-17, 44-59 & Column 3, lines 1-11 & Column 4, lines 50-59 & Column 5, lines 23-26, 59-65 & Column 6, lines 29-45 & Fig. 1, elements "C1", "R", CLK1, C1', R' CLK1'). Van der Putten also discloses embedding the information of the incoming clock rate along with the data to be transported into the data frame of the network which is then

de-embed at the receiver to recover the data and the clock information (Fig. 1, element "P", "FRAME" & Column 5, lines 44-67 & Column 6, lines 1-53 & Claim 1). Van der Putten further discloses event counter mechanism so as to store (measure) the information of the incoming clock (Column 5, lines 55-67 & Column 6, lines 1-3). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Van der Putten teaches implementing an event counter mechanism so as to store (measure) the information of the incoming clock and this can be implemented in the system as described in the AAPA in view of Binder so as to transmit the source data rate to the sink node embedded in the frame of the network so as to provide the necessary information to implement the source rate conversion in the destination node. Furthermore, there is no criticality in inputting at least two source information words into the network frame for transmitting over the synchronous network, this is a matter of design choice depending on the choice of the source information rate and the network clock rate.

# Allowable Subject Matter

8. Claims 17 & 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (571)-272-3038. The examiner can normally be reached on M-F: 9am-6pm.

Art Unit: 2634

If attempts to reach the examiner by telephone are unsuccessful, the
 examiner's supervisor, Stephen Chin can be reached on (571)-272-3056

 The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

• Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sudhanshu C. Pathak

SUPERVISORY PATENT EXAMINE

Page 8

TECHNOLOGY CENTER 2600